AMENDMENTS TO THE SPECIFICATION

I. Please replace the TITLE on page 1, beginning on the line numbered 1 and ending on the line numbered 2, with the following amended TITLE:

~~PHOTOCONDUCTOR CELL~~ LIGHT GUIDE CAPABLE OF OPTICALLY CHANGING COLOR OF LIGHT

II. Please replace the two consecutive paragraphs on page 3, beginning on the line numbered 5 and ending on the line numbered 18, with the following amended paragraphs:

It is therefore a primary object of the present invention to provide a ~~photoconductor cell~~ light guide capable of optically changing color of light. A brightening layer is disposed on the ~~photoconductor cell~~ light guide. The brightening layer includes therein numerous optical particles, which are able to enhance the brightness of the light in perpendicular direction. Therefore, the entire brightness of the display is enhanced.

It is a further object of the present invention to provide the above ~~photoconductor cell~~ light guide in which a color-changing layer is disposed on the ~~photoconductor cell~~ light guide. The color-changing layer is blended with predetermined color material for changing the color of light into a predetermined color so as to achieve various colors of back light.

III. Please replace the DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS, beginning on page 4 and ending on page 10, with the following amended DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please refer to Fig. 1. According to a first embodiment, the present invention is disposed on a back light-type liquid crystal display 1 having a liquid crystal module 10. A ~~photoconductor module~~ lighting module 20 is disposed under the bottom of the liquid crystal module 10. The ~~photoconductor module~~ lighting module 20 has a ~~photoconductor cell~~ light guide 21 made of transparent substrate material. The top of the ~~photoconductor cell~~ light guide 21 has a light outgoing face 211. The bottom of the ~~photoconductor cell~~ light guide 21 has an inclined ~~photoconduction face~~ emission surface 212, whereby the ~~photoconductor cell~~ light guide 21 is tapered to have a thick end 213 and a thin end 214. A reflecting layer 22 is disposed under the ~~photoconduction face~~ light guide 21. A light incoming face 215 is formed on a lateral side of the thick end ~~212~~ 213 of the ~~photoconductor cell~~ light guide 21. A light source 23 is arranged on one side of the light incoming face 215 distal from the thin end 214 of the ~~photoconductor cell~~ light guide 21. An arched reflecting mirror 24 is positioned on one side of the light source 23 distal from the ~~photoconductor cell~~ light guide 21. In addition, a brightening layer 25 is

integrally disposed under the light outgoing face 211 of the ~~photoconductor cell~~ light guide 21. The brightening layer 25 is composed of a number of optical particles 251. The optical particles 251 can be made of metal oxides (such as silicon dioxide, glass particles, titanium dioxide, etc.) or inorganic hydroxides (such as $Al_2(OH)_3$, etc.) or inorganic salts (such as sodium chloride, potassium chloride, etc.) or organic polymers. The outer surface of each optical particle 251 is formed with projections 252. In addition, a color-changing layer 26 is integrally disposed under the brightening layer 25 of the ~~photoconductor cell~~ light guide 21. The color-changing layer 26 is blended with a color material or luminescent color material.

It should be noted that the projections 252 formed on the surfaces of the optical particles 251 serve to in unspecific directions reflect and spread the light beam which comes in unspecific directions, whereby the light beam is scattered. The scattered light beam makes the brightness more even and increases the light beam reflected to pass through the liquid crystal module 10 so as to enhance the illumination of the display.

Moreover, with reference to Fig. 7 which is a CIE chromaticity diagram, when it is desired to show purple back light from the liquid crystal display with a blue light source 23, a cooperative color-changing layer 26 with red color is necessary. Similarly, when it is desired to show white back light from the liquid crystal display with a blue light source 23, a cooperative color-changing layer 26 with orange color is necessary.

Referring to Fig. 2, the ~~photoconductor cell~~ light guide 21 of the

present invention is applicable to the panel of an electronic product such as a mobile phone or a PDA. The light source 23 (which is a blue LED in this embodiment) emits a light beam X which is directly projected to the light incoming face 215 of the ~~photoconductor cell~~ light guide 21 or is reflected by the reflecting mirror 24 thereto. The light beam X is refracted to the light outgoing face 211 or is directly projected thereto. Before the light beam X penetrates through the ~~photoconductor cell~~ light guide 21 from the light outgoing face 211, the light beam X first passes through the color-changing layer 26 (which in this embodiment has red color), whereby the colors are mixed to form a light Y with changed color (which is purple with reference to Fig. 3). The light Y with changed color further penetrates through the brightening layer 25. The projections 252 on the surfaces of the numerous optical particles 251 in the brightening layer 25 focus the light Y as a convex lens as shown in Fig. 3. The light Y then goes out from the upper side of the optical particles 251 to penetrate through the liquid crystal module 10. Accordingly, the liquid crystal display 1 can present back light with the changed color. The focusing effect enhances the brightness of the light so that the back light of the liquid crystal display has better brightness.

In addition, the light beam Z emitted from external light source (such as sunlight or lamp light) will penetrate through the liquid crystal module 10 and reach the brightening layer 25 of the ~~photoconductor cell~~ light guide 21. The light beam Z is reflected and scattered by the projections 252 on the surfaces of the numerous optical particles 251 to form

scattered light V which can be reflected back to the liquid crystal module 10 (as shown in Fig. 4). This enhances the brightness and evenness presented by the liquid crystal module 10.

According to the above arrangement, the color-changing layer 26 of ~~photoconductor cell~~ light guide 21 of the present invention serves to change the color of the light emitted from the light source 23. Therefore, depending on the colors of the light source 23 and the color-changing film 26, various back light colors can be achieved. Moreover, the numerous optical particles 251 of the brightening layer 25 reflects and scatters the light of external light sources and focuses the light of internal light source 23 so as to enhance the brightness and evenness presented by the liquid crystal display 1. Accordingly, while changing the color of back light, the brightness of the back light of the display 1 is also increased so that the illumination of the display 1 is enhanced.

Fig. 5 shows a second embodiment of the present invention, in which the topmost layer of the ~~photoconductor cell~~ light guide 30 is the color-changing layer 31, while the bottom of the color-changing layer 31 is the brightening layer 32. The light beam emitted from the light source 33 is first focused by the brightening layer 32 and then goes to the color-changing layer 31. The light beam emitted from the external light source is reflected and scattered by the numerous optical particles 321 of the brightening layer 32 and then goes to the color-changing layer 31. The colors are mixed to form various colors and achieve enhanced brightness and evenness.

Fig. 6 shows a third embodiment of the present invention, in which the ~~photoconductor cell~~ light guide 41 is integrally blended with a color material or luminescent color material to directly form the color-changing layer. The bottom of the light outgoing face 411 of the ~~photoconductor cell~~ light guide 41 is integrally formed with the brightening layer 42. Accordingly, the light beam emitted from the light source 43 has been already mixed into the light with changed color in the ~~photoconductor cell~~ light guide 41. The light with changed color is then directly projected to the brightening layer 42 or is reflected by the reflecting layer 44 of the bottom of the ~~photoconductor cell~~ light guide 41 thereto. The light is then focused to enhance the brightness. The light beam of the external light sources is also reflected and scattered by the brightening layer 42 to enhance the evenness of light.

The present invention is able to optically change the color of light and achieve desired back light color of the display in cooperation with the color of the light source. The conventional color-changing film will decrease the brightness of the back light, while the present invention is able to enhance the brightness. In structure, the cost for the scattering film and the color-changing film is saved.

In conclusion, the present invention has the following advantage:

1. The present invention is able to enhance the brightness. The brightening layer is disposed on the ~~photoconductor cell~~ light guide. Numerous optical are blended or connected with the brightening layer, whereby the brightening layer is able to enhance the brightness of the

light in perpendicular direction. Therefore, the entire brightness of the display is enhanced. The enhanced brightness is much higher than that of a conventional color-changing film.

2. The present invention is able to optically change the color of light. The color-changing layer if disposed on the ~~photoconductor cell~~ light guide. The color-changing layer is blended or connected with predetermined color material or luminescent color material so as to change the color of light into a predetermined color and achieve various color of light. In the case of luminescent color material, the brightness will not be reduced due to interruption and absorption of the light. Reversely, a luminescent effect is achieved to enhance the brightness.

The above embodiments are only used to illustrate the present invention, not intended to limit the scope thereof. Many modification of the above embodiments can be made without departing from the spirit of the present invention.